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EXAMINER

BLACKWELL RUDASIL, GWENDOLYN A

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/009,291

Applicant(s)

O'SHAUGHNESSY ET AL.

Examiner

Gwendolyn A. Blackwell-Rudasill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) 54-70 and 73-81 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-53, 71 and 72 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-53 and 71-72, drawn to the article.

Group II, claim(s) 54-70 and 73-81, drawn to method of making.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features or the special technical feature does not provide a contribution over the prior art for the following reasons:

The special technical feature is defined as a substrate having a temporary coating that is removed with a selected washing fluid. The special technical feature does not provide a contribution over the prior art as evidenced by United States Patent Application Publication no. 2002/0176988, Medwick et al. Medwick et al disclose a substrate with a temporary protective coating that can be removed through the use of a solvent, (page 2, section 0014).

3. During a telephone conversation with Eric Snustad on June 6, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-53 and 71-72. Affirmation of this election must be made by applicant in replying to this Office action. Claims

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54-70 and 73-81 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Oath/Declaration

5. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Specification

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

7. Applicant is advised that should claim 5 be found allowable, claim 33 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.
8. Applicant is advised that should claim 14 be found allowable, claim 28 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.
9. Applicant is advised that should claim 15 be found allowable, claim 29 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 3-11, 13-18, 21-25, and 27-41 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 5,302,449, Eby et al.

Eby et al disclose a high transmittance low E coating for substrates that can have a protective overcoat. The overcoat includes oxides of zinc, tin, indium, bismuth or oxides of alloys including such metal. Zinc oxide is particularly preferred. The overcoat is provided over a mechanically durable coating, such as titanium oxide, because the durable coating is more susceptible to chemical attack, (column 7, lines 20-53). While it does not specifically state that the overcoat is temporary, Eby et al disclose that the overcoat “will not significantly affect the optical properties of the film or the coated substrate”, (column 7, lines 60-67). In addition, even if a “washing process were so harsh to wash away the entire overcoat from the film stack” the “overcoat would nonetheless serve to protect the underlying film from abrasion during handling, shipping, or the like prior to washing” thereby indicating that it is not necessary for the overcoat to be permanent, meeting the requirements of claims 1, 3-4, 6-8, and 14-15, (columns 7-8, lines 67-6). The overcoat has an optical thickness of between 10-40 Å. An overcoat of zinc oxide has a physical thickness of about 5- about 20Å, meeting the requirements of claims 9-11, (column 8, lines 7-19).

Eby et al also disclose a base coat on the substrate of a metal oxide such metals as titanium, hafnium, zirconium, zinc, tin, indium, and bismuth, (column 3, lines 25-40). An infrared radiation reflective metal layer is formed over the base coat with a metal oxide layer formed over the metal reflective layer. The same metal oxides used for the base coat can be used for the coating over the metal reflective layer. It is known in the art that titanium oxide has hydrophilic and photocatalytic properties, meeting the requirements of claims, 13, 16-17, 21-25, and 27-32, (columns 3-4, lines 60-35).

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies the applicant's claimed durable coating and protective coating, the claimed physical properties the ability of the durable coating to withstand temperatures on the order of about 600°C and the contact angle are inherently present in the prior art. As such, the addition of the claimed physical property to the claim language fails to provide patentable distinction over the prior art, meeting the requirements of claims 5, 18, and 33-40.

Claims 1, 22, 28, 32, and 41 are product by process claim wherein the patentability of the product does not depend on its method of production. "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *See MPEP 2113*. As such, the process limitations within claims 1, 22, 28, 32, and 41 do not provide patentable distinction absent a showing of criticality resulting in unexpected results between the claimed invention and the prior art.

12. Claims 1-7, 12-18, 21-31, and 33-36 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Application Publication no. 2002/0176988, Medwick et al.

Medwick et al disclose a light transmissive article with a removable protective coating. The substrate may be coated with one or more functional coatings wherein the protective coating is formed over the functional coatings. The protective coating may also be formed directly on the substrate, (page 2, sections 0011-0012). Removal of the protective coating is achieved by solvent, combustion or thermal decomposition, meeting the requirements of claims 1-3 and 28, (page 2, sections 0014-0015). The functional coating may be a single or multiple layer coating

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comprised of one or more metals, non-metals, semi-metals, semiconductors, and or alloys, compounds, composites, combinations or blends thereof such as metal oxides, (page 3, section 0025). The functional coating can also contain infrared reflecting films, meeting the requirements of claim 26, (pages 3-4, section 0026). An example of a functional coating that can be used is a reflective metal that may further comprise a primer film or barrier film such as titanium that is located over and/or under the metal reflective layer, meeting the requirements of claims 17, 21-23, 25, and 27, (pages 4-5, section 0026)

Medwick et al also disclose that the coating is removable by wiping, spraying, or dipping with aqueous or non-aqueous solvents, organic, alkaline or acidic solvents, meeting the requirements of claims 4, 12 and 34, (page 4, section 0031).

Medwick et al further disclose that the functional coating can be deposited utilizing different deposition methods. Furthermore, the functional coatings can be applied to both sides of a substrate with a protective coating formed over at least a portion of the functional coating, meeting the requirements of claims 13-16 and 26, (page 4, sections 0027-0030). The protective coating can be applied onto one or more surfaces of a substrate having zero, one, or more functional coatings, (page 5, section 0040). Decomposure temperatures range from 648-704°C, meeting the requirements of claims 5 and 33, (page 7, section 0053). In addition, the protective coating can contain metal oxides such as iron oxides, meeting the requirements of claims 6-7, 24, 29-31, and 34-36, (page 6, section 0051).

Claims 1, 22, 28, and 41 are product by process claim wherein the patentability of the product does not depend on its method of production. "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even

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though the prior product was made by a different process.” *See MPEP 2113*. As such, the process limitations within claims 1, 22, 28, and 41 do not provide patentable distinction absent a showing of criticality resulting in unexpected results between the claimed invention and the prior art.

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies the applicant’s claimed durable coating, the claimed physical property relating to the contact angle is inherently present in the prior art. As such, the addition of the claimed physical properties to the claim language fails to provide patentable distinction over the prior art, meeting the requirements of claim 18.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 1, 3-11, 13-25, 27-52, and 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 4,952,430, Bowser et al in view of United States Patent no. 5,302,449, Eby et al with United States Patent Application Publication no. 2003/0039843, Johnson et al used as an evidentiary reference.

Bowser et al disclose an insulated window unit that consists of two or more panes of glass, spaced parallel to each other. A sealing assembly is structurally bonded to the marginal edge of the periphery of the glass, (column 3, lines 15-23). In addition, the glass sheets may be laminated, heat strengthened, or tempered, (column 5, lines 25-28). Bowser et al do not specifically disclose a temporary protective coating.

Eby et al disclose a high transmittance low E coating for substrates that can have a protective overcoat. The overcoat includes oxides of zinc, tin, indium, bismuth or oxides of alloys including such metal. Zinc oxide is particularly preferred. The overcoat is provided over a mechanically durable coating, such as titanium oxide, because the durable coating is more susceptible to chemical attack, (column 7, lines 20-53). While it does not specifically state that the overcoat is temporary, Eby et al disclose that the overcoat "will not significantly affect the optical properties of the film or the coated substrate", (column 7, lines 60-67). In addition, even if a "washing process were so harsh to wash away the entire overcoat from the film stack" the "overcoat would nonetheless serve to protect the underlying film from abrasion during handling, shipping, or the like prior to washing" thereby indicating that it is not necessary for the overcoat to be permanent, (columns 7-8, lines 67-6). The overcoat has an optical thickness of between

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10-40 Å. An overcoat of zinc oxide has a physical thickness of about 5- about 20Å, (column 8, lines 7-19).

Eby et al also disclose a base coat on the substrate of a metal oxide such as titanium, hafnium, zirconium, zinc, tin, indium, and bismuth, (column 3, lines 25-40). An infrared radiation reflective metal layer is formed over the base coat with a metal oxide layer formed over the metal reflective layer. The same metal oxides used for the base coat can be used for the coating over the metal reflective layer. It is known in the art that titanium oxide has hydrophilic and photocatalytic properties, (columns 3-4, lines 60-35).

Johnson et al disclose a photocatalytic hydrophilic coating on a substrate. The coating can contain silicon oxides. The contact angle can decrease to a value less than 15°, (page 3, sections 0021-0022). In addition, the coating should be substantially non-porous, (page 4, sections 0026).

Bowser et al and Eby et al are related as a glass structure and a coating for a glass structure. The coated glass of Eby et al can be used as architectural glass, (column 1, lines 15-23). Because the Eby et al glass can be used in architectural glass, it would have been obvious to one skilled in the art at the time of invention to used the coated glass of Eby et al in the insulated window structure of Bowser et al to create a high transmittance, low E insulated window with a protective overcoat to protect the coated glass surface during shipping and handling.

Johnson et al demonstrate that it is known in the art to use silicon oxide in a non-porous coating as a hydrophilic coating. As such, it would have been within the skill of one in the art to modify the Bowser/Eby structure with a silicon coating that is hydrophilic and substantially non-porous.

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies the applicant's claimed durable coating and protective coating, the claimed physical properties the ability of the durable coating to withstand temperatures on the order of about 600°C and the contact angle are inherently present in the prior art. As such, the addition of the claimed physical property to the claim language fails to provide patentable distinction over the prior art, meeting the requirements of claims 5, 18, and 33-40.

Claims 42 and 71 are product by process claim wherein the patentability of the product does not depend on its method of production. "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *See MPEP 2113*. As such, the process limitations within claims 42 and 71 do not provide patentable distinction absent a showing of criticality demonstrating unexpected results between the claimed invention and the prior art.

16. Claims 1, 9-11, 42-48, 50-53, and 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 4,952,430, Bowser et al in view of United States Patent Application Publication no. 2002/0176988, Medwick et al.

Bowser et al disclose an insulated window unit that consists of two or more panes of glass, spaced parallel to each other. A sealing assembly is structurally bonded to the marginal edge of the periphery of the glass, (column 3, lines 15-23). In addition, the glass sheets may be laminated, heat strengthened, or tempered, (column 5, lines 25-28). Bowser et al do not specifically disclose a temporary protective coating.

Medwick et al disclose a light transmissive article with a removable protective coating. The substrate may be coated with one or more functional coatings wherein the protective coating is formed over the functional coatings. The protective coating may also be formed directly on the substrate, (page 2, sections 0011-0012). Removal of the protective coating is achieved by solvent, combustion or thermal decomposition, (page 2, sections 0014-0015). The functional coating may be a single or multiple layer coating comprised of one or more metals, non-metals, semi-metals, semiconductors, and or alloys, compounds, composites, combinations or blends thereof such as metal oxides, (page 3, section 0025). The functional coating can also contain infrared reflecting films. An example of a functional coating that can be used is a reflective metal that may further comprise a primer film or barrier film such as titanium that is located over and/or under the metal reflective layer, (pages 3-4, section 0026).

Medwick et al also disclose that the coating is removable by wiping, spraying, or dipping with aqueous or non-aqueous solvents, organic, alkaline or acidic solvents, (page 4, section 0031). The functional coating can be deposited utilizing different deposition methods. Furthermore, the functional coatings can be applied to both sides of a substrate with a protective coating formed over at least a portion of the functional coating, (page 4, sections 0027-0030). The protective coating can be applied onto one or more surfaces of a substrate having zero, one, or more functional coatings, (page 5, section 0040). Decomposure temperatures range from 648-704°C, (page 7, section 0053). In addition, the protective coating can contain metal oxides such as iron oxides, (page 6, section 0051).

Bowser et al and Medwick et al are related as a glass structure and a coating for a glass structure. The coated glass of Medwick et al can be used as architectural glass, (column 1, lines

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15-23). Because the protective coating of Medwick et al is applied to the glass to temporarily protect the functional coatings on glass substrate, (page 1, section 0002), it would have been obvious to one skilled in the art at the time of invention to use the protective coating of Medwick et al on the exterior surfaces of the insulated window structure of Bowser et al to create an insulated window with a protective overcoat that protects the functional coating on the glass surface during shipping and handling that is later removed.

While Medwick et al do not specifically disclose the thickness of the protective film as exemplified by Applicant, absent a showing of criticality with respect to the thickness (a result effective variable), it would have been obvious to a person of ordinary skill in the art at the time of the invention to adjust the thickness through routine experimentation in order to achieve a protective coating that is thick enough to provide the required protections while being economical. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 42 and 71 are product by process claim wherein the patentability of the product does not depend on its method of production. "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *See MPEP 2113*. As such, the process limitations within claims 42 and 71 do not provide patentable distinction absent a showing of criticality demonstrating unexpected results between the claimed invention and the prior art.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

United States Patent no. 6,379,746, disclose a temporary coating for protecting glass articles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn A. Blackwell-Rudasill whose telephone number is (703) 305-9741. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gwendolyn A. Blackwell-Rudasill
Examiner
Art Unit 1775

GBR
gbr

June 25, 2003


DEBORAH JONES
SUPERVISORY PATENT EXAMINER